

**DIRECT TESTIMONY AND EXHIBITS OF**  
**MICHAEL L. SEAMAN-HUYNH**  
**ON BEHALF OF**  
**THE SOUTH CAROLINA OFFICE OF REGULATORY STAFF**  
**DOCKET NO. 2018-319-E**  
**IN RE: APPLICATION OF DUKE ENERGY CAROLINAS, LLC**  
**FOR ADJUSTMENTS IN ELECTRIC RATE SCHEDULES AND TARIFFS**  
**AND REQUEST FOR AN ACCOUNTING ORDER**

**Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND OCCUPATION.**

**A.** My name is Michael Seaman-Huynh. My business address is 1401 Main Street, Suite 900, Columbia, South Carolina 29201. I am employed by the State of South Carolina as a Senior Regulatory Manager in the Utility Rates and Services Division of the Office of Regulatory Staff (“ORS”).

**Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.**

**A.** I received my Bachelor’s Degree in History from the University of South Carolina in 1997. Prior to my employment with ORS, I was employed as an energy analyst with a private consulting firm. I joined ORS in 2006 as an Electric Utilities Specialist and was promoted to Senior Electric Utilities Specialist in 2010. When the Energy Regulation Department was formed in August 2015, I assumed the position of Senior Regulatory Analyst. In May 2016, the Utility Rates and Services Division was formed, and I was promoted to the position of Senior Regulatory Manager.

**Q. HAVE YOU TESTIFIED BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA (“COMMISSION”)?**

1     **A.**             Yes. I have testified on numerous occasions before the Commission in connection  
2             with hearings concerning annual fuel clause proceedings, general rate cases, and Utility  
3             Facility Siting and Environmental Protection Act proceedings.

4     **Q.     WHAT IS THE MISSION OF ORS?**

5     **A.**             ORS represents the public interest as defined by the South Carolina General  
6             Assembly as:

7                     The concerns of the using and consuming public with respect to public  
8                     utility services, regardless of the class of customer, and preservation of  
9                     continued investment in and maintenance of utility facilities so as to provide  
10                    reliable and high-quality utility services.

11    **Q.     WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

12    **A.**             The purpose of my testimony is to address certain areas of ORS's examination of  
13             Duke Energy Carolinas, LLC's ("Company" or "DEC") application for adjustments in its  
14             electric rates and charges under Docket No. 2018-319-E ("Application"). My testimony  
15             will specifically address the Company's cost of service study ("COSS"), depreciation  
16             study, rate design, revenue verification, and revenue requirement distribution.

17                    I will also address the Company's pro forma adjustments pertaining to the  
18             Company's calculation of the Extra Facilities Charge ("EFC") and ORS's Customer  
19             Growth calculation. These adjustments, more fully discussed below, were provided by the  
20             ORS Utility Rates and Services Division to the ORS Audit Department and are shown in  
21             Audit Exhibit GS-2 of ORS witness Smith's Direct Testimony.

22                    Additionally, I will address the distribution of the additional revenue requirement  
23             and the proposed Excess Deferred Income Tax Rider ("EDIT Rider") to customers, ORS's  
24             recommendation regarding the Company's proposed Phase 1 and 2 increase in base rates

to support the proposed Grid Improvement Plan (“GIP”), and the impact of the proposed rates on customers’ bills.

**I. COST OF SERVICE STUDY**

**Q. WHAT IS THE PURPOSE OF A COST OF SERVICE STUDY?**

**A.** The Company owns and operates an electric system which primarily provides retail electric service to residential, general service, industrial and street lighting customers, as well as wholesale customers. Each of these customer classes receives varying types of service and contributes different load characteristics to the system. The COSS allocates – or directly assigns – responsibility for the revenues, expenses and rate base items among the individual customer classes. That is, the cost responsibility for expenses and rate base items are allocated to the customer class(es) that caused the cost to be incurred. This allocation methodology is referred to as “cost causation.”

**Q. PLEASE EXPLAIN THE MAJOR COMPONENTS OF A COST OF SERVICE STUDY.**

**A.** The major components utilized in the development of a fully distributed COSS are functionalization, classification and allocation. Functionalization is the process of categorizing cost according to its function, which is either production, transmission or distribution. Classification is further dividing these costs into the type of service they provide, namely demand, energy or customer. The allocation of these costs is based upon the demand, energy or customer costs incurred by the individual classes.

**Q. PLEASE DESCRIBE THE ALLOCATION METHODOLOGY USED BY THE COMPANY IN ITS COST OF SERVICE STUDY.**

1     **A.**             The Company filed its COSS based on the summer peak day One-Hour Coincident  
2             Peak Demand methodology, which was approved by the Commission in the Company's  
3             last general rate case in 2013 (Order No. 2013-661). Allocation factors for demand related  
4             costs are two-fold. The class coincident peak ("CP") allocator was developed based on  
5             each customer class's contribution to the system's peak demand of 17,422 megawatts  
6             (MW), which occurred at 3:00 p.m. on August 17, 2017. This allocator was used for the  
7             allocation of production and transmission investments to customer classes.

8             The class non-coincident peak ("NCP") allocator was developed based on the peak  
9             demands of each customer class whenever they occurred during the test year ending  
10            December 31, 2017 ("Test Year"). The NCP allocator was used for the allocation of  
11            demand related distribution investments and expenses to customer classes. The CP and  
12            NCP demand allocation methodology generally reflects how costs are incurred by the  
13            Company to meet the demands customers place on the Company's system.

14            The energy related allocation factors were based on the annual kilowatt hour  
15            ("kWh") sales for each customer class for the Test Year, adjusted for system losses. The  
16            energy allocation methodology generally reflects the variable costs incurred by DEC, such  
17            as fuel, to meet each customer class's energy consumption requirements placed on the  
18            Company's system throughout the year.

19            The customer related allocation factors were based on the number of customers in  
20            each respective class and used to allocate costs such as meters. In addition, costs such as  
21            extra facilities that were identified as being attributable to a specific class of customer were  
22            directly assigned to that customer class.

**Q. HAS THE COMPANY MADE ANY CHANGES TO ITS COST OF SERVICE STUDY IN THIS PROCEEDING COMPARED TO ITS LAST RATE CASE?**

**A.** Yes. As discussed by Company witness Hager, DEC incorporated the Minimum System Methodology into its COSS as part of the Application. In using the Minimum System Method, DEC identified a portion of costs for distribution lines, poles, and transformers, and allocated these costs based on customer related allocation factors rather than demand factors. In the 2013 general rate proceeding, the Company did not use the Minimum System Method and instead allocated costs using the Basic Customer method. The Basic Customer method allocated service drops and meters based on the number of customers and resulted in lower basic facility charges.<sup>1</sup>

**Q. WHAT WERE THE FINDINGS OF ORS'S REVIEW OF THE COMPANY'S COST OF SERVICE STUDY?**

**A.** ORS concluded that, for the purposes of this Application, the methodology applied in constructing the Company's COSS is reasonable. The methodology provides a reasonable assessment and allocation of the Company's revenues, operating expenses and rate base items.

**Q. AS PART OF ORS'S REVIEW OF THE COMPANY'S COST OF SERVICE STUDY, WERE CERTAIN COSTS DIRECTLY ASSIGNED TO THE COMPANY'S NORTH CAROLINA OR SOUTH CAROLINA JURISDICTIONS?**

**A.** Yes. DEC directly assigned certain costs to its North Carolina and South Carolina jurisdictions. These included, but were not limited to, costs associated with South Carolina Act 236 Distributed Energy Resources (South Carolina) and the North Carolina Renewable

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<sup>1</sup> Company witness Hager's Direct Testimony, page 15.

1 Energy and Energy Efficiency Portfolio Standard (North Carolina). It is a common  
2 practice for utilities operating in multiple jurisdictions to assign the costs related to certain  
3 accounts directly to one jurisdiction. These costs are often derived from laws and  
4 regulations that are specific to that jurisdiction. This follows the principle of cost causation  
5 that I previously discussed. Adhering to this principle, it is appropriate for the total costs  
6 associated with implementation and compliance with the laws and regulations of a  
7 particular jurisdiction be allocated completely to that jurisdiction while holding the  
8 customers of other jurisdictions harmless.

9 **Q. WERE THERE NORTH CAROLINA JURISDICTIONAL COSTS ASSIGNED TO**  
10 **SOUTH CAROLINA?**

11 **A.** Yes. ORS determined that the Company allocated coal ash management and  
12 disposal expenses to South Carolina customers that were incurred to comply with North  
13 Carolina laws and regulations. ORS recommends the Commission disallow recovery of  
14 these additional costs related to North Carolina laws and regulations. This issue and the  
15 corresponding ORS recommendations are addressed by ORS witness Wittliff.

## 16 **II. DEPRECIATION STUDY**

17 **Q. HAS THE COMPANY INCLUDED A NEW DEPRECIATION STUDY AS PART**  
18 **OF THE APPLICATION?**

19 **A.** Yes. Company witness Doss introduced the Company's 2016 depreciation study  
20 ("Study") in Doss Exhibit 2. The Study performed by Gannett Fleming, Inc. relates to  
21 Company electric plant in service as of December 31, 2016. Results of this Study indicate  
22 an annual reduction in depreciation expense of approximately \$10 million. The primary

driver of this change is an overall net increase in the expected life of assets and additional generation assets that have entered service since the Company's previous 2011 study.

**Q. HAS THE COMPANY MADE UPDATES TO THE STUDY?**

**A.** Yes. On June 22, 2018, the North Carolina Utilities Commission ("NCUC") issued an order in Docket No. E-7, Sub 1146<sup>2</sup> approving the Study with three (3) adjustments. These adjustments are discussed by Company witness Doss in his direct testimony, and the revised depreciation rates resulting from the NCUC order are shown in Doss Exhibit 3. The Company incorporated the Study, including the revised depreciation rates in Doss Exhibit 3, into the Application.

**Q. WHAT DID THE COMPANY REQUEST IN THE APPLICATION REGARDING THE STUDY?**

**A.** As part of the Application, the Company petitioned the Commission for an accounting order to adopt the new depreciation rates in the Study effective August 1, 2018.

**Q. WHAT IS ORS'S POSITION REGARDING THIS REQUEST?**

**A.** ORS reviewed the Study and has no objection to the Company petitioning for an accounting order to adopt the revised depreciation rates in the Study.

**Q. DID ORS REVIEW THE DEPRECIATION RATES IN THE STUDY?**

**A.** Yes. ORS confirmed the Company used the rates in the Study to determine the appropriate cost levels for depreciation expense in its current filing. ORS found the Study results and methodologies to be reasonable and consistent with other electric utilities in South Carolina which has been previously approved by the Commission.

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<sup>2</sup> <https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=80a5a760-f3e8-4c9a-a7a6-282d791f3f23>

**III. REVENUE VERIFICATION, REVENUE REQUIREMENT DISTRIBUTION,  
AND RATE DESIGN**

**Q. DID ORS VERIFY THE REVENUE COMPUTATIONS USED IN DETERMINING  
THE VARIOUS TARIFF INCREASES?**

**A.** Yes. ORS verified the Test Year billing determinants for each current rate schedule approved by the Commission. ORS also confirmed the use of these determinants as applied to the proposed rates. The difference in the revenue generated by the current and proposed rates produces the revenue increase the Company has requested in this proceeding. This is a reasonable and appropriate method for determining the accuracy of the proposed rates.

**Q. PLEASE DISCUSS THE REVENUE REQUIREMENT AND HOW IT IS  
DISTRIBUTED TO EACH CUSTOMER CLASS.**

**A.** The COSS was utilized to determine the proper cost allocation for each class. The revenue requirement was then applied to each class to align the returns by class with the overall rate of return. This is an appropriate and equitable method for allocating revenue requirements and is an accepted regulatory practice consistent with previous Commission orders.

Based on ORS's adjustments and a 9.30% return on equity ("ROE"), as recommended by ORS witness Parcell, ORS recommends a reduction to DEC's proposed revenue increase from \$230,807,000 (as filed in Company witness Smith's Exhibit 1) to \$77,302,000, which equates to an approximate 67% reduction or approximately \$153,505,000, excluding the refund from the EDIT Rider. The revenue increases for ORS's recommendation by customer class and individual rate schedules are reflected in



Exhibit MSH-1. ORS recommends that the revenues generated by the billing determinants not exceed the target revenue for each class as proposed in Exhibit MSH-1.

Exhibit MSH-1 demonstrates the percent increases proposed by ORS for each customer class. The retail increases by customer class, including ORS's proposed adjustments and the EDIT Rider, are as follows: 2.29% for Residential; -0.39% for General Service; 0.09% for Industrial; and 3.29% for Lighting. The overall total retail increase is 0.92%.

**Q. HOW DOES ORS'S DISTRIBUTION OF THE REVENUE REQUIREMENT IMPACT THE RATE OF RETURN BY CUSTOMER CLASS?**

A. Exhibit MSH-2 provides the resulting rate of return by customer class, taking into account ORS's proposed adjustments and excluding the EDIT Rider. In developing Exhibit MSH-2, ORS attempted to limit cross-subsidization of customer classes by employing a  $\pm 10\%$  "band of reasonableness" relative to the overall retail rate of return. ORS was successful in bringing the Residential and Industrial customer classes within this band. The returns by class are as follows: 5.13% for Residential; 6.66% for General Service; 5.78% for Industrial; and 5.03% for Lighting. The overall rate of return for total retail is 5.68%. ORS recommends that any increase by the Commission granted be allocated in a manner such that the returns by class are as equitable as practicable.

**Q. HAS THE COMPANY PROPOSED MODIFICATIONS TO ITS CURRENT TARIFF STRUCTURE?**

A. Yes. The Company has recommended changes to the existing tariff structure as described in Company witness Pirro's direct testimony. These include changes to the Company's Basic Facility Charge ("BFC") for all rates, increases in the Incremental

Demand Charge contained in Rate HP, and numerous modifications and updates to its lighting tariffs. ORS reviewed these modifications and found most of them to be reasonable. However, ORS recommends some changes to help mitigate the overall impact to residential and small commercial customers.

**Q. PLEASE DISCUSS THE COMPANY'S PROPOSED CHANGES TO ITS RESIDENTIAL TARIFF STRUCTURE.**

**A.** The Company has proposed to increase the BFC from the current charge of \$8.29 per month to \$28.00 per month for its non-time-of-use residential rate schedules and from \$9.93 per month to \$27.08 per month for its time-of-use ("TOU") residential rate schedules. These substantial increases would allow DEC to recover all of the customer related costs reflected in its COSS.

ORS recommends the Commission determine the rate design that balances utility rate design principles. ORS disagrees with the Company's proposal to recovery all customer related costs through the BFC. The magnitude of the increase to the BFC contradicts the concept of gradualism in rate design. Gradualism is the concept of progressively changing rates over time in a manner that mitigates rate shock to customers. Increasing the BFC for residential customers by 238% (see Pirro Exhibit No. 6) in a single rate increase is extreme. Additionally, the impact to customers using relatively small amounts of energy (e.g., low income and fixed income customers) would be substantial.

**Q. DOES ORS HAVE A RECOMMENDATION REGARDING THE RESIDENTIAL BFCS?**

**A.** Yes. ORS recommends DEC be allowed to increase the BFCs for the residential class, both TOU and non-TOU, to recover up to twenty-five percent (25%) of the approved

revenue increase assigned to the residential class. This approach of gradualism mirrors the approach used by the NCUC in the most recent DEC general rate proceeding.<sup>3</sup> Using the ORS proposed revenue increase, excluding the changes from the EDIT Rider, ORS recommends the BFC for residential non-TOU customers be increased to \$11.77 per month and \$12.92 per month for residential TOU customers as shown on Exhibit MSH-3.

**Q. IF THE ORS RECOMMENDATION REGARDING THE RESIDENTIAL BFCS WERE APPROVED, HOW WOULD THE COMPANY RECOVER THE REMAINING REVENUE REQUIREMENT FOR THE RESIDENTIAL CLASS?**

**A.** If the Commission were to approve ORS's recommendation that only twenty-five percent (25%) of the approved revenue increase assigned to the residential class, the remaining portion of the additional revenue requirement would need to be recovered through the volumetric rates, those being the energy (¢/kWh) and demand charges (\$/kilowatt ("kW")), which were noticed to the public and included in the Company's Application.

**Q. PLEASE DISCUSS THE COMPANY'S PROPOSED CHANGES TO ITS GENERAL SERVICE AND INDUSTRIAL TARIFF STRUCTURES.**

**A.** As with the Residential class, DEC has proposed to update the BFCs for its General Service and Industrial ("I") tariffs to collect all customer related costs included in the COSS. Under the proposed tariffs, Small General Service ("SGS") customers would realize a sizable increase in the BFC, similar to residential customers. Customers served under Large General Service ("LGS") and Industrial tariffs would also realize an increase in the BFC, while customers served under the Optional Time-of-Use ("OPT") tariff would

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<sup>3</sup> <https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=80a5a760-f3e8-4c9a-a7a6-282d791f3f23>

see a decrease in their monthly BFCs. Additionally, DEC proposes to increase the incremental demand charge in Rate HP.

**Q. DOES ORS HAVE A RECOMMENDATION REGARDING THE GENERAL SERVICE AND INDUSTRIAL TARIFF STRUCTURES?**

**A.** Yes. As with the Residential class, ORS recommends DEC be allowed to increase the BFC for SGS customers to recover up to twenty-five percent (25%) of the approved revenue increase assigned to that class. For customers served by the LGS and I tariffs, ORS recommends that the Commission approve the Company's proposed increases be designed to collect all customer related costs included in the COSS. The LGS and I tariffs are minimally impacted by the Minimum System Method used in the COSS. Using the ORS proposed revenue increase, excluding the changes from the EDIT Rider, ORS recommends the BFC for SGS customers be increased to \$11.60 per month as shown on Exhibit MSH-3.

ORS reviewed the Company's proposal to increase the incremental demand charge for Rate HP to compensate the Company for increased usage on its distribution system and increased costs at the local distribution level and found it to be reasonable.

**Q. IF THE ORS RECOMMENDATION REGARDING THE BFC FOR SGS WAS APPROVED, HOW WOULD THE COMPANY RECOVER THE REMAINING REVENUE REQUIREMENT FOR SGS?**

**A.** Like the Residential class, if the Commission were to approve ORS's recommendation that only twenty-five percent (25%) of the approved revenue increase be assigned to SGS, the remaining portion of the additional revenue requirement would need to be recovered through the volumetric rates, those being the energy (¢/kWh) and demand

charges (\$/kW), which were noticed to the public and included in the Company's Application.

**Q. PLEASE DISCUSS THE COMPANY'S PROPOSED CHANGES TO ITS LIGHTING TARIFF STRUCTURE.**

**A.** Company witnesses Pirro and Cowler address numerous proposed changes to DEC's lighting tariffs to modernize and improve the administration of its schedules. ORS reviewed these changes and found them to be reasonable.

**Q. HAS THE COMPANY PROPOSED ANY CHANGES TO ITS SERVICE REGULATIONS?**

**A.** Yes. Company witness Pirro addresses several proposed changes to its Service Regulations for clarification purposes and acknowledgement of current practices. ORS reviewed these changes and found them to be reasonable. DEC also proposes to modify its EFC calculation by adopting a new methodology. This proposal and ORS's recommendation are addressed later in my testimony.

#### **IV. PRO-FORMA ADJUSTMENTS**

**Q. PLEASE EXPLAIN THE COMPANY'S PROPOSAL TO ADJUST THE EFC.**

**A.** In Company Adjustment #3, DEC proposes to change the EFC calculation by reducing the monthly percent rate charge. As testified to by Company witness Pirro, this new methodology will affect non-residential customers with agreements for extra facilities by reducing the monthly rate charged from 1.7% to 1.1%. ORS reviewed this change and found it to be reasonable. This information is reflected in ORS witness Smith's Adjustment #3.

**Q. PLEASE EXPLAIN ORS'S CUSTOMER GROWTH CALCULATION INCLUDING THE RESULTING CUSTOMER GROWTH FACTOR FOR THE COMPANY.**

**A.** ORS found an increase in the number of DEC customers in South Carolina when comparing the end of the Test Year and the average number of customers during the Test Year. To capture the additional revenues and expenses generated by customers added to the Company's system, ORS included an adjustment for customer growth. The customer growth factor is calculated by taking the difference between the total number of customers at the end of the Test Year and the average number of customers during the year and dividing the result by the average number of customers during the Test Year. This methodology yields a retail customer growth factor of 0.9008% for the Company. This customer growth factor is reflected in ORS witness Smith's Adjustment #37.

## **V. EDIT RIDER**

**Q. HAS ORS REVIEWED THE COMPANY'S PROPOSED EDIT RIDER?**

**A.** Yes. ORS has reviewed the Company's EDIT Rider. ORS witness Schellinger discusses ORS's review of the Company's calculations of the EDIT Rider. ORS recalculated the first-year return based on a 9.30% ROE and 4.44% Cost of Debt, as recommended by ORS witness Parcell, to arrive at a total return of EDIT Rider revenue of \$61,794,822 for the first year. Exhibit MSH-4 allocates this total to the various customer classes using the same methodology as discussed by Company witness Pirro but updated for corrected Test Year billing units.

**VI. GIP**

**Q. DOES ORS HAVE A RECOMMENDATION REGARDING THE PHASE 1 AND 2 INCREASE IN BASE RATES TO SUPPORT THE COMPANY'S GIP?**

**A.** Yes. ORS recommends the phased-in rate proposed by the Company for the GIP be denied. ORS witness Sandonato provides a detailed explanation of the ORS recommendation in his direct testimony.

**VII. CONCLUSION**

**Q. HAS ORS REVIEWED THE EFFECT OF THE COMPANY'S PROPOSED RATES ON THE TYPICAL RESIDENTIAL CUSTOMER'S MONTHLY BILL?**

**A.** Yes. Exhibit MSH-5 shows the typical monthly residential bill for a customer on Rate RS with 1,000 kWh consumption for DEC's currently approved rates and the rates proposed in this proceeding. For information purposes, ORS provided the same information for South Carolina Electric & Gas Company ("SCE&G"), Duke Energy Progress, LLC ("DEP"), Lockhart Power Company ("Lockhart"), South Carolina Public Service Authority ("Santee Cooper"), and the most recent U.S. Energy Information Administration ("EIA") data for the South Atlantic region of the United States.

**Q. AFTER INCORPORATING ORS'S ADJUSTMENTS AND RECOMMENDATIONS INTO THE COMPANY'S APPLICATION, WHAT IS THE NET EFFECT ON THE TYPICAL MONTHLY BILL FOR A TYPICAL RESIDENTIAL CUSTOMER?**

**A.** The monthly bill for the typical residential customer on Rate RS using 1,000 kWh ("Typical Bill") will increase by approximately \$8.58 from \$117.74 to \$126.32, or 7.3%, exclusive of the EDIT Rider. Including the EDIT Rider, the Typical Bill would decrease

by an additional (\$4.59) for a net increase of \$3.99. Inclusive of all changes, the Typical Bill would increase from \$117.74 to approximately \$121.73, or 3.4%.

**Q. WILL YOU UPDATE YOUR TESTIMONY BASED ON INFORMATION THAT BECOMES AVAILABLE?**

**A.** Yes. ORS fully reserves the right to revise its recommendations via supplemental testimony should new information not previously provided by the Company, or other sources, become available.

**Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

**A.** Yes, it does.



**Duke Energy Carolinas, LLC**  
**Proposed Revenues**  
Docket No. 2018-319-E

EXHIBIT MSH-1

Rate Class	Present Revenues Annualized (a)	ORS Proposed Revenues Annualized (b)	ORS Proposed Revenue Increase (Decrease) (c)	ORS Percent Increase (Decrease) (d)	ORS EDIT Rider Increase (Decrease) (e)	ORS Proposed Net Revenue Increase/(Decrease) (Total) (f)	ORS Percent Increase (Decrease) (g)
<u>Residential</u>	\$ 680,173,659	\$ 717,302,502	\$ 44,059,000	5.46%	\$ (28,498,084)	\$ 15,560,915	2.29%
<u>General Service</u>	\$ 467,750,879	\$ 486,963,369	\$ 13,154,000	4.11%	\$ (14,957,855)	\$ (1,803,855)	-0.39%
<u>Industrial</u>	\$ 499,868,420	\$ 517,734,816	\$ 16,285,000	3.57%	\$ (15,827,996)	\$ 457,003	0.09%
<u>Lighting</u>	\$ 39,250,614	\$ 42,344,884	\$ 3,804,000	7.88%	\$ (2,510,888)	\$ 1,293,112	3.29%
<i>Total Retail</i>	<i>\$ 1,687,043,572</i>	<i>\$ 1,764,345,571</i>	<i>\$ 77,302,000</i>	<i>4.58%</i>	<i>\$ (61,794,822)</i>	<i>\$ 15,507,176</i>	<i>0.92%</i>

Duke Energy Carolinas, LLC

Rate of Return by Class

Docket No. 2018-319-E  
(000's Omitted)

EXHIBIT MSH-2

	Before Increase				After Proposed Increase			
	Company Pro Forma Ratebase	Company Pro Forma Return	ROR	Relationship to Parity	Company Pro Forma Ratebase	ORS Pro Forma Return	ROR	Relationship to Parity
Residential	\$ 2,536,231	\$ 96,975	3.82%	82%	\$ 2,536,231	\$ 130,191	5.13%	90%
General Service	\$ 1,392,174	\$ 82,840	5.95%	128%	\$ 1,392,174	\$ 92,757	6.66%	117%
Industrial	\$ 1,500,954	\$ 74,450	4.96%	107%	\$ 1,500,954	\$ 86,727	5.78%	102%
Lighting	\$ 190,620	\$ 6,721	3.53%	76%	\$ 190,620	\$ 9,589	5.03%	89%
Total Retail	\$ 5,619,978	\$ 260,986	4.64%	100%	\$ 5,619,978	\$ 319,264	5.68%	100%

**Duke Energy Carolinas, LLC**  
**ORS Residential & SGS BFC Recommendations**  
Docket No. 2018-319-E

EXHIBIT MSH-3

	Bills	ORS Proposed Revenue Increase/(Decrease)	ORS Proposed Revenue 25% Increase	ORS BFC Increase	Current BFC	ORS Proposed BFC	ORS Percent Increase
<b>Residential (RS)</b>	3,162,644	\$44,016,350	\$11,004,088	\$3.48	\$8.29	\$11.77	42%
<b>Residential (RT)</b>	3,565	\$42,649	\$10,662	\$2.99	\$9.93	\$12.92	30%
<b>SGS</b>	958,490	\$4,144,655	\$1,036,164	\$1.08	\$10.52	\$11.60	10%

**Duke Energy Carolinas, LLC****EXHIBIT MSH-4****Derivation of EDIT Rider**

Docket No. 2018-319-E

	<b>Billing Units (kWh)</b>	<b>EDIT Rider Class Total (\$)</b>	<b>EDIT Rider Class Rate (\$/kWh)</b>
<b>Residential</b>	6,206,952,946	\$ (28,498,084)	\$0.004591
<b>General Service</b>	5,402,677,710	\$ (14,972,583)	\$0.002771
<b>Industrial</b>	8,950,860,748	\$ (15,819,707)	\$0.001767
<b>Lighting</b>	225,248,236	\$ (2,504,448)	\$0.011119
<b>Total Retail</b>	<b>20,785,739,640</b>	<b>\$ (61,794,822)</b>	

**Duke Energy Carolinas, LLC**  
**Typical Monthly Residential Bill for 1,000 kWh Consumption**  
Docket No. 2018-319-E

**EXHIBIT MSH-5**

	<b>Total Bill Including EDIT Rider</b>	<b>Total Bill Excluding EDIT Rider</b>
<b>DEC (Schedule RS) (Current)</b>	\$117.74	
<b>DEC (Schedule RS) (Company Proposed)</b>	\$132.48	\$137.13
<b>DEC (Schedule RS) (ORS Proposed)</b>	\$121.73	\$126.32
<b>SCE&amp;G (Rate 8)</b>	\$124.91	
<b>DEP (Schedule RES)</b>	\$122.49	
<b>Lockhart (Schedule R) <sup>1</sup></b>	\$134.45	
<b>Santee Cooper (Schedule RG) <sup>2</sup></b>	\$123.87	
<b>South Atlantic 2017 Average (from EIA) <sup>3</sup></b>	\$125.15	

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<sup>1</sup> Lockhart Rate does not include monthly changes to Schedule O.

<sup>2</sup> Santee Cooper bill does not include non-public changes to FAC-17, DSC-17, and EDA-17.

<sup>3</sup> [https://www.eia.gov/electricity/sales\\_revenue\\_price/pdf/table5\\_a.pdf](https://www.eia.gov/electricity/sales_revenue_price/pdf/table5_a.pdf)